

AMENDMENTS TO THE CLAIMS

Claim 1 (Currently Amended): A process for producing olefin by catalytic cracking of hydrocarbon material characterized in employing a catalyst comprising a penta-sil zeolite of penta-sil type comprising one or more rare earth elements and at least one of manganese or and zirconium as a catalyst.

Claim 2 (Currently Amended): The process for producing olefin according to Claim 1, wherein the contents content of said one or more rare earth elements in said catalyst falls within the range of from 0.4 to 20 expressed as atomic ratio of aluminum in zeolite.

Claim 3 (Currently Amended): The process for producing olefin according to Claim 1, wherein the total contents content of manganese and zirconium in said catalyst falls within the range of from 0.1 to 20 expressed as mole ratio of aluminum in zeolite.

Claim 4 (Original): The process for producing olefin according to Claim 1, wherein said catalyst further comprises phosphorous in an amount of from 0.1 to 5 % by mole.

Claim 5 (Original): The process for producing olefin according to Claim 1, wherein the mole ratio of $\text{SiO}_2/\text{Al}_2\text{O}_3$ among zeolite in said catalyst is from 25 to 800.

Claim 6 (Original): The process for producing olefin according to Claim 1, wherein a catalytic reaction is carried out under the presence of steam.

Claim 7 (New): The process for producing olefin according to Claim 1, wherein the one or more rare earth elements is selected from the group consisting of La, Ce, Pr, Nd, Sm and Eu.

Claim 8 (New): The process for producing olefin according to Claim 2, wherein the content of said one or more rare earth elements in said catalyst falls within the range of from 0.6 to 5 expressed as atomic ratio of aluminum in zeolite.

Claim 9 (New): The process for producing olefin according to Claim 8, wherein the content of said one or more rare earth elements in said catalyst falls within the range of from 1 to 3 expressed as atomic ratio of aluminum in zeolite.

Claim 10 (New): The process for producing olefin according to Claim 3, wherein the total content of manganese and zirconium in said catalyst falls within the range of from 0.5 to 10 expressed as mole ratio of aluminum in zeolite.

Claim 11 (New): The process for producing olefin according to Claim 10, wherein the total content of manganese and zirconium in said catalyst falls within the range of from 1 to 5 expressed as mole ratio of aluminum in zeolite.

Claim 12 (New): The process for producing olefin according to Claim 7, wherein the content of said one or more rare earth elements in said catalyst falls within the range of from 0.6 to 5 expressed as atomic ratio of aluminum in zeolite; and the total content of manganese and zirconium in said catalyst falls within the range of from 0.5 to 10 expressed as mole ratio of aluminum in zeolite.

Claim 13 (New): The process for producing olefin according to Claim 12, wherein the content of said one or more rare earth elements in said catalyst falls within the range of from 1 to 3 expressed as atomic ratio of aluminum in zeolite; and the total content of manganese and zirconium in said catalyst falls within the range of from 1 to 5 expressed as mole ratio of aluminum in zeolite.